**Design Idea Worksheet – Print out and fill out one of these for each design idea.**

**Your name:**

**Design # (each of your designs should have a number):**

**This is a (circle one): --New design**

**--Variation, based on design # \_\_\_\_\_\_\_\_ (If it is a variation, you only need**

**to fill in the parts that differ from the basic design)**

**Data structure on which design is based:**

**Describe how the data will be organized:**

**Augmentations**: None of the data structures we have studied fit this problem perfectly, all of them have performance problems if used as-is. In this space describe any changes or additions you are making to the basic data structure to improve performance.

**Performance**: For each of the main methods of the Starbucks.h, describe in detail the algorithm you would use, and then give the asymptotic running time that would result.

**build**

**Algorithm:**

**Running time:**

**getNearest**

**Algorithm:**

**Running time:**

**Accuracy**: How accurate do you expect your solution to be? 1.0 is perfect, 2.0 means off by a factor of 2, and so on. Explain your reasoning.

**Difficulty:** On a scale of 1 to 10, with 1 being “very easy” to 10 being “impossible,” how hard will it be for you to successfully implement this solution in the time allotted (1 week)?